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Grant adds up to additional math skills for area teachers

By John Liesveld/Tribune staff
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It's about improving teachers in order to improve the students.

That is an over-riding theme to a state-wide program targeting math teachers. For the last year and a half many teachers across Nebraska have utilized a professional development program through a series of conferences, workshops and Web-based technologies and communications to improve their math teaching skills.

"That's actually the gateway to the whole program," said Carol Jessen, staff development director at Education Service Unit 8 in Neligh and the program director. "Our intent is to improve student math scores through improving knowledge skills and instructional strategies of the teachers."

In its second year, the three year program, called the Nebraska Mathematics Professional Development Series, was funded through a grant proposal written by a Mathematics Content Cadre formed through Nebraska ESUs. The program also is supported and monitored by the Nebraska Department of Education to ensure planning coordination and alignment with state standards.

Funded by an approximately $1 million grant spread over three years, the program builds on participating teachers' knowledge of math through Content Leadership Groups, a Mathematics Advisory Group and Professional Learning Communities. In formulating the grant, Jessen said they used information from middle and secondary schools that showed the need to improve math learning across the state.

The program is divided into three overall mathematical themes, one for each year. Last year focused on algebra, this year geometry and in 2008-09 the concentration targets data analysis. The grant provides teachers training on new technologies they can implement in the classroom and also use to network with other educators around the state. Each year the program selects and trains about 40 teacher to serve as group leaders. The leaders coordinate ongoing Web-based discussions and special conference sessions that take place in North Platte, Kearney, Norfolk and Omaha.

Jan Michael, behavioral consultant/ teacher in the Fremont Public Schools Pathfinder program epitomizes the program's goal. Pathfinder serves special needs students with severe behavioral issues. As a special education teacher, Michael is not considered strictly a math teacher. She needs to be qualified in several subjects at levels that accommodate

different age groups and a wide variety of special needs students.

Michael majored in music education in college, and before the program, her experience teaching math was limited. As one of only a handful of Pathfinder teachers, Michael said she needs to be flexible in order to serve each student's needs.

"The major reason I'm participating is because I need the extra training in math,"

Michael said, adding that as a special education teacher she never had the same training in math and science that general education math teachers undergo.

Under the increased No Child Left Behind standards, Michael felt the need to expand her knowledge. The program provided her with learning tools that she carried over to her students.

RMC Research Corp., based in Denver, serves as the program's external monitor and delivers regular reports on the program. A logic model applied to the program's first year showed improvements in teacher and student performance in mathematics. Higher student achievement and increased participation were among those changes.

"As a staff developer, we have standards for staff development that we try to meet," Jessen said.

The program provided continuity stretching over an extended time period, due in part to the use of Web-based discussions by utilizing MyeLearning Angel Web-ware. The computer network connects teachers through discussion to form learning communities, allowing an efficient and easy exchange of ideas.

"We've really built strongly on this concept of professional learning communities," said Jessen.

Terri Jelinek, teaches mathematics at North Bend Central. For her the program provided new techniques for teaching and understanding math.

"The program gives teachers a lot more tools to work with because every child learns differently," Jelinek said.

Jelinek has noticed improvements. One of the biggest changes has been the higher level of math attainment that students achieve before leaving high school.

Jelinek explained technology created a huge difference in how her students understand math concepts in the classroom. It helped bring the monotony of numbers, symbols and calculations off the paper and out of the calculator, translating them to real world applications and spiking interest. Jelinek said the program helped her implement a sort of mathematics' laboratory, analogous to a physics or biology laboratory.

"The more tools we have, the better the chance we'll reach every student. It gives us a better ability to analyze why a student might be having a problem (in math)," Jelinek said.

"It's very rewarding to work with a project like this. It's been a big project that's taken a lot of time but it feels like the right thing to be doing," Jessen said.